The role of GoJek and Grab sharing economy platforms and management accounting systems usage on performance of MSMEs during covid-19 pandemic: Evidence from Indonesia

Diana Zuhroh[a*], Johnny Jermias[a], Sri Langgeng Ratnasari[c], Sriyono[d], Elok Nurjanah[e] and Mochammad Fahlevi[f]

[a]University of Merdeka Malang, Malang, Indonesia
[b]SFU Beedie School of Business, Burnaby, BC, Canada
[c]Universitas Riau Kepulauan, Indonesia
[d]Universitas Muhammadiyah Sidoarjo, Indonesia
[e]STAI Sabilul Muttaqin, Mojokerto, Indonesia
[f]Management Department, BINUS Online Learning, Bina Nusantara University, Jakarta 11480, Indonesia

A B S T R A C T

This study investigates the influence of MSME actors' characteristics on the use of sharing economy, management accounting system, and financial performance during the Covid-19 Pandemic. Based on a questionnaire survey obtained from 167 respondents, we hypothesize and find that age and non-formal education have a positive effect on the use of the sharing economy. MSMEs that are managed by actors at a young age tend to use the sharing economy to maintain their business. In addition, MSMEs' leaders that receive non-formal education acquire additional business knowledge encouraging them to use the sharing economy. Furthermore, the use of the sharing economy has a positive effect on Management Accounting Systems usage. Finally, Management Accounting Systems usage has a positive effect on the financial performance. The results of this study provide useful insights into the design of effective MSMEs' mentoring systems and support the Indonesian government program toward empowering MSMEs.

1. Introduction

Micro, Small and Medium Enterprises (MSMEs) have an important role in supporting Indonesia's economic growth. The contribution of the MSME sector to Indonesia's GDP is 61% and employment reaches 97% (Kearney, 2021). The Ministry of Cooperatives and MSMEs in Indonesia has recently reported that most business units in the country are MSMEs. This includes a sizable portion of medium businesses, a significant number of small businesses, and a vast majority being micro businesses (Irawan, 2020). From the data above, it appears that the largest number are Ultra Micro Enterprises, namely businesses owned by individuals who generally run businesses to meet their daily needs (Advertorial, 2022; Habiburrahman et al., 2022; Setyaningrum et al., 2023). The micro-business base has revealed to be strong in dealing with the economic crisis, has a fast transaction turnover, uses domestic production, and is in contact with the community's primary needs (Prasetyo, Putri Harwijayanti, et al., 2022; Sasongko, 2020).

The Covid-19 pandemic has significantly impacted MSMEs (Alharbi et al., 2022; Prasetyo, Gartika, et al., 2022). The Covid-19 pandemic, which is still ongoing, is one of the environmental factors that cannot be predicted and has shown to be very influential on business sustainability (Gaffar et al., 2022). The development of digital technology, which is an exogenous factor that cannot be controlled by business actors, has become one of the solutions to overcoming various difficulties during the pandemic (Ahmad et al., 2023; Daragmeh et al., 2021). Since May 2020, 300,000 MSMEs (13% of all MSMEs) have

utilized digital technology and it has shown to help them survive and even develop amid social restrictions during the Covid-19 Pandemic (Habiburrahman et al., 2022). One of the digital technologies (platforms) used by MSMEs is Sharing Economy, including GoJek and Grab with various service facilities provided, for example, food delivery orders (GoFood and Grab food), delivery services (Gosend and Grab Express), payment platforms (GoPay), and several other services (Sutia et al., 2019). Sharing Economy Technology, which is a new information technology, has become a global phenomenon and its role in economic configuration is considered a very important issue to be investigated (Parente et al., 2018).

Further research found evidence that the majority of Go Food partners utilized the Go Food application with increased revenue during the Covid-19 Pandemic (Elhan-Kayalar et al., 2022). Additionally, there is Go Send, a service extensively utilized by sellers in the culinary and fashion sectors. These sellers have noted an income increase compared to the pre-pandemic period. Furthermore, survey findings indicate that MSMEs that incorporated the Grab application witnessed a rise in their income during the Covid-19 pandemic.

Research on the readiness of MSME actors to utilize technology was carried out by Lestantri et al. (2022) who reported that MSME actors were not fully ready to use the relatively new technology so they need assistance. In Indonesia, other studies have also reported that only 30% of MSMEs use digital technology (Kearney, 2021). The survey found that even though MSME actors who use digital technology have increased, in May 2020 only 13% of all MSMEs were able to utilize information technology (Habiburrahman et al., 2022). This shows that MSME actors in Indonesia face quite difficult challenges, especially concerning the quality of human resources, including digital literacy, general and business knowledge, knowledge of funding sources, and internet capabilities (Capri, 2020).

According to the Upper Echelons theory, the achievement or performance of an organization can be related to the characteristics or background of its leader (Hambrick & Mason, 1984). The main characters include psychological factors consisting of values, cognitive models and observable experiences which include functional background, formal education, age, and tenure (Fahlevi, Moeljadi, et al., 2023). An in-depth study using the Upper Echelons theory found that the use of information technology is associated with improved organizational performance. López-Muñoz and Escribá-Esteve (2017) found a negative correlation between a leader's age and the use of IT. Conversely, there's a positive correlation between gender and IT usage, education level and IT usage, as well as business duration and IT usage.

Previous research yielded different findings. Regarding the age of MSME actors, for example, some studies found that the age and educational level of MSME actors influences the use of information technology (Hsu et al., 2013; Saeed & Ziaulhaq, 2019). Meanwhile, different results were also obtained, where age and education level did not affect the use of newer technologies (Acar, 2016; Mayr et al., 2021). According to the Contingency Theory (Anderson & Lanen, 1999), companies employing information technology strategically to navigate through environmental uncertainty necessitate the backing of a management accounting system. This system is crucial as it supplies information vital for planning, controlling, and decision-making processes (Anderson & Lanen, 1999; Fahlevi et al., 2022). As shown in Figure 1, according to this theory the support of an adequate management accounting system is important. This is because the ability of the technology system in the process of collecting and processing data must be responded to by a system that is able to provide useful information for decision making. As shown in Fig. 1, according to this theory, the adequate management accounting system is important because the ability of technological systems in the process of collecting and processing data into information should be responded by a system that is capable to produce information useful in planning, controlling, and decision making (Brennan et al., 2019). If the synergy goes well, it will have an impact on organizational performance.
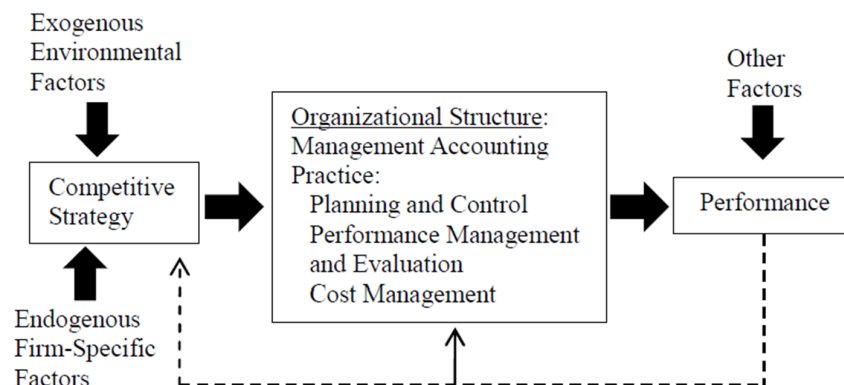

Fig. 1. Contingency Theory
Source: (Anderson & Lanen, 1999)

This study aims to examine the influence of (1) managerial characteristics (observable managerial characteristics) of MSME actors on the use of information technology, in this case, the Sharing Economy which includes Grab and Go Jek with various services provided, (2) the use of Sharing Economy on Management Accounting System usage, and (3) the use of management accounting systems on MSME financial performance. The results of this study are useful for interested parties in providing guidance and assistance, especially in the success of the MSME digitization program in Indonesia. The parties involved intensively in developing MSMEs are the Ministry of Cooperatives and MSMEs, Regional Governments, Universities, and community organizations. The results of this study will help the coaching and mentoring activities to be more effective by focusing on the characteristics and abilities of MSME actors.

2. Theoretical Basis and Hypothesis Formulation

2.1 Managerial Characteristics and Technology of the Sharing Economy

According to the Upper Echelons theory (Hambrick & Mason, 1984), organizational outcomes reflect the values and cognitive capabilities of the powerful actors in the organizations (Hiebl, 2014). These powerful actors known as the "upper echelons" exercise great influences over the organizational strategic choices and, in turn, their performance. Finkelstein et al. (2009) assert that organizations are the reflections of both top executives' unique backgrounds and personalities. The upper echelons theory postulates that top executives' expertise, experiences, values, and personalities are important determinants of organizations' strategic choices and outcomes. Top executives interpret the business environment in which the organizations operate and make decisions that affect the organizational effectiveness (Hambrick, 2007). This theory asserts that the visible managerial characteristics are related to administrative abilities (Hambrick, 2007). The characteristics include age, tenure in the organization, gender, education, socioeconomic roots, and financial position (Finkelstein et al., 2009). In this approach, managerial characteristics possessed by a person will provide a better psychological effect, which in turn will have an impact on problem-solving abilities (Ratnasari et al., 2021). The age of MSME actors has been shown to affect their ability to bring their business to go international, which means they are considered more ready to adopt new technology (Hsu et al., 2013). Young age actors are often associated with the ability to respond to changes in the business environment more quickly, to adopt new ideas willingly, and have the courage to take risks. This certainly requires flexibility in the use of information technology (Chuang et al., 2009; Saeed & Ziaulhaq, 2019). Typically, older individuals often feel uneasy with computers, perceiving themselves as "technologically illiterate", which diminishes their interest in adopting new technologies (López-Muñoz & Escribá-Esteve, 2017; Rahmawati et al., 2022). Based on these arguments' conclusions, we propose the following hypothesis:

H$_{1-a}$: *Age has a negative effect on the use of sharing economy technology.*

Another factor that is considered to influence the use of information technology in general is gender. The proposition is based on the Upper Echelons theory that users of new information technology are generally men, and it is shown that men are often the market target for new information technology products (Awa et al., 2015). Several studies that use this theory also conclude that men and women have different preferences for information technology, thereby influencing the use of information technology (Marhaeni et al., 2022). The more dominant the men of MSME managers, the more intensive the use of IT applications will be (Chuang et al., 2009). However, more recent studies have shown that gender differences in IT usage preferences are decreasing (Cai et al., 2017). The gap between women and men in the use of information technology can be overcome through increasing self-efficacy in terms of increasing abilities and skills (Harmon & Walden, 2020). Based on this explanation, the following hypothesis will be tested:

H$_{1-b}$: *Gender has a positive effect on the use of sharing economy technology.*

Furthermore, according to the Upper Echelons theory, the level of formal education influences the use of information technology (López-Muñoz & Escribá-Esteve, 2017). Hsu et al. (2013) research concluded that educational level moderates the effect of internationalization on performance. The reason is that higher education provides a greater ability to process information in very complex situations rationally (Hartanto et al., 2020; Hsu et al., 2013). The same results were also obtained from Szymkowiak et al. (2021) research that the level of education has a positive effect on the use of information technology, which in turn affects a better company budgeting process (Chuang et al., 2009). Meanwhile, from several previous studies, López-Muñoz and Escribá-Esteve (2017) formulated the proposition that the level of education is positively related to the use of information technology. Based on these discussions, we propose the following hypothesis:

H$_{1-c}$: *Formal education has a positive effect on the use of sharing economy technology.*

In addition to formal education, MSME actors in managing their business need additional knowledge so that they are kept up to date in facing various challenges and competitions. Informal and non-formal education in the form of training and other forms carried out by both government agencies and community organizations is very important. Informal/non-formal education using appropriate media or technology can improve cognitive absorption skills (Greenfield, 2009). Cognitive absorption encompasses five dimensions: temporal dissociation, focused immersion, heightened enjoyment, control, and

curiosity. These essential skills precede and significantly influence two critical aspects related to technology utilization: perceived usefulness and ease of use (Agarwal & Karahanna, 2000). Thus, informal/non-formal education that can improve cognitive abilities will have a positive impact on the decision to use technology. This concept is consistent with previous research suggesting that intensive training in the use of certain information technologies has the potential to increase perceptions of the use of the technologies, which in turn will increase the intention to use them (Jayasuriya, 1998; Karimi, 2016). Training about the use of well-designed information technology will also improve computational and spatial intelligence; this will foster a perception of usability, which will then determine the intention to use a particular technology (Hou et al., 2020). Based on this discussion, we propose the following hypothesis:

H$_{1-d}$: *Informal/non-formal education has a positive effect on the use of sharing economy technology.*

Another important influential factor from the perspective of the Upper Echelons theory is experience. Experience is an important contributor to the success of a business because it indicates the ability to manage costs, design the right business strategy, seek new marketing sources, and entering international competition (Hsu et al., 2013). Experience also plays an important role in increasing competence in managing costs and economic pressures to minimize the potential for bankruptcy (Mayr et al., 2021). Other research also finds that the experience of MSME owners in managing their resources moderates the relationship between the use of information technology and performance (Mabula et al., 2020). In the MSME business, the experience of the manager or owner is identical to the length of time the MSME has been established. Research in Indonesia uses the variable name "Length of Business" as an indicator of the experience of SME owners in running a business. These reveal that length of business influences the use of accounting information systems (Anggraini & Thorp, 2020). Based on this discussion, we propose the following hypothesis:

H$_{1-e}$: *The length of business has a positive effect on the use of sharing economy technology.*

2.2 The Use of Information Technology, Management Accounting Systems Usage and their Impact on performance

In this study, we use contingency theory to predict the relationship between the use of information technology and accounting systems and their effect on performance (Anderson & Lanen, 1999). Contingency theory is related to the *strategy-structure-performance paradigm,* namely the alignment between strategy and organizational structure to maximize *performance* in response to exogenous and endogenous factors. The most dominant exogenous factor is environmental change while the endogenous factor consists of the company's internal factors. Exogenous and endogenous factors affect the organizational structure of a company, one of which is management accounting practices. Appropriate design and implementation of an organizational structure that is properly align with the external factors will have a positive impact on performance. The Covid-19 pandemic can be considered one of the changes in the environment, triggering the increasingly intensive use of sharing economy technology in MSME business operations (Fahlevi, Ahmad, et al., 2023). Following the contingency theory, the use of sharing economy technology is one of the exogenous variables which in turn has an impact on the Management Accounting system usage. The use of information technology has been shown in previous studies to have a positive effect on management accounting practices, particularly in cost management, budgeting, and performance management in the SME sector (Cleary et al., 2022). Digital technology, especially big data and machine learning, makes it easier for management accountants to plan and implement higher-quality selling prices. This is possible because the implementation of these two technologies plays a role in providing better information about consumers (Andreassen, 2020). In connection with the use of the sharing economy, this technology has been shown to affect the practice of management accounting systems. For example, sharing economy technology allows Airbnb business actors to regulate and control business activities which in turn allow owners to be able to create value that is beneficial for the sustainability of their business (Leoni & Parker, 2019). Thus, we propose the following hypothesis:

H$_2$: *The use of sharing economy technology has a positive effect on the use of management accounting systems.*

Furthermore, according to the contingency theory, the use of an appropriate management accounting system will have an impact on financial performance. Chenhall and Smith (1998) find that there is a positive impact of management accounting systems usage on financial and non-financial performance. Alignment between business strategy and contextual variables, including the management accounting system has an impact on financial performance (Jermias & Gani, 2005). This is possible because the management accounting system plays a role in providing the information needed for strategy implementation, especially for companies implementing a differentiation strategy (Zuhroh, 2015). For MSMEs, the management accounting system plays a role in increasing efficiency and maintaining business continuity (Nartey & van der Poll, 2021). The application of an accounting system increases the reliability of business operational data which enables MSME owners or actors to make the right decisions in increasing the competitive advantage of their business (Kareem et al., 2021). Thus, we propose the following hypothesis:

H$_3$: *Management Accounting System Usage has a positive effect on Financial Performance.*

The formulation of the hypothesis is described in a conceptual framework as presented in Fig. 2:
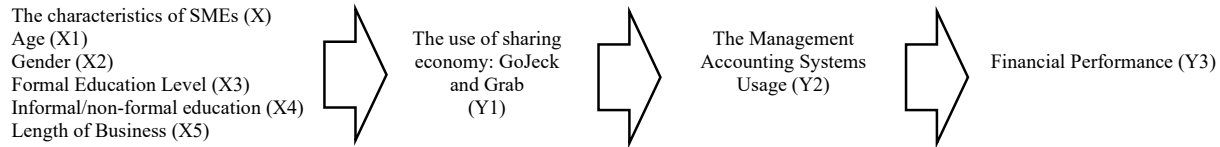
The characteristics of SMEs (X)
Age (X1)
Gender (X2)
Formal Education Level (X3)
Informal/non-formal education (X4)
Length of Business (X5)

The use of sharing economy: GoJeck and Grab (Y1)

The Management Accounting Systems Usage (Y2)

Financial Performance (Y3)

Fig. 2. The Conceptual Framework

3. Research Methods

3.1 Measurements

The research variables which consist of independent, intervening, and dependent variables, and their respective measurements are presented in detail in the following table:

Table 1
Variable Measurement

Variable Type	Variable Name	Variable Measurement
Independent (X): Characteristics of SMEs	Age (X1)	Age (age) of the MSME owner or actor in years.
	Gender (X2)	MSME owners (actors), Men = 1, and Women = 0
	Formal Education Level (X3)	Education of MSME owners (actors), using a code with details: a. Junior High School (SMP, Madrasah Tsanawiyah (Equivalent to Islamic-based junior high school), and other equivalent education) = 1 b. Senior High School (SMA, Vocational School, Madrasah Aliyah (Equivalent to Islamic-based senior high school), and other equivalent education) = 2 c. Diploma Education 1-3 = 3. d. Higher Education (Bachelor) = 4. e. Postgraduate Education (S2) = 5
	Informal/ Non-formal Education (X4)	Using 3 questions related to the importance of informal education, skills training, and courses including entrepreneurship, and their benefits in fostering innovation and creativity. Answers using a Likert scale, 1 = strongly disagree, to 5 = strongly agree
	Length of Business (X5)	Length of MSME's business, using the code as follows: a. 1-3 years = 1. b. 4-6 years = 2 c. 7-10 years = 3. d. > 10 years = 4
Intervening (Y1)	Use of the Sharing Economy (SE)	Using questions related to the use of various Go-Jek and Grab services which include: Go-Pay and Ovo, Go-Food and Grabb-Food, Go-Ride and Grab-Bike, Go Send and Grab Express, Go-Car and Grabb Car, with answer choices: a. 1 = never b. 2 = rare c. 3. = sometimes d. 4 = often e. 5 = very often.
Intervening (Y2)	Management Accounting Systems Usage (MAS)	Using questions relates to the use of various accounting records which include: cash books, accounts receivable, ledgers, sales books, and cost records to determine selling prices, payroll records and employee performance assessment, and overall cost records for decision-making and control. Answer choices 1 = strongly disagree to 5 = strongly agree.
Dependent (Y3)	Financial Performance (FP)	Questions related to financial performance include: MSMEs do not face capital difficulties, do not need loans, do not experience a decrease in customers, do not experience a decrease in sales, do not experience a decrease in profits, and manage their business using profits. Answer choices include 1 = strongly disagree to 5 = strongly agree.

3.2 Population and Sample

The population of this study is the MSME community in 2 cities in East Java Province, Indonesia. The total number is around 300 actors/owners. Determination of the sample using the Slovin formula with a confidence level of 90%, an error of 5% to obtain a sample of 175 (rounded) (Slovin et al., 1993). After going through the selection process for the results of the questionnaire, the answers that met the requirements for further processing amounted to 167 (Lind et al., 2018).

3.3 Data collection technique

We used a questionnaire survey distributed directly to the respondents to collect the data used in this study. We inform the respondents that research assistants are available to help any questions that respondents might have when filling out the questionnaires. These procedures are necessary to make sure that the questionnaires were filled in according to the instructions

because many of the respondents are MSME actors who are unfamiliar with technical accounting terms and sharing economy technology.

3.4 Research Instruments

The research questionnaire was designed using closed questions consisting of questions about the characteristics of MSME actors, the use of sharing economy technology, management accounting systems usage, and financial performance. The questions were adopted from previous research in Indonesia which had their validity and reliability tested. Specifically, the questions of the Sharing Economy are modified from Capri (2020). Before the questionnaires were distributed to the target respondents, a pilot test was first carried out involving 25 students. From the pilot test, we modified some sentences to increase their clarity and understandability (Saunders et al., 2009; Sekaran & Bougie, 2016).

3.5 Data analysis

The analysis of the data commenced with an evaluation of the instrument's validity and reliability. This involved conducting tests for convergent validity, average variance extracted (AVE), and discriminant validity to establish the instrument's validity. The reliability assessment was performed using Cronbach's Alpha values to determine composite reliability (Ringle et al., 2020). We then examine the feasibility of the model (inner) using PLS based on the R^2. We evaluate the hypotheses previously formulated in earlier sections by employing the Smart PLS (Partial Least Squares) method. Smart PLS is a statistical tool used for estimating complex multivariate models with latent variables, providing a framework that is capable of testing the developed hypotheses (Hair et al., 2019). It allows for the analysis of relationships between observed and unobserved variables, helping in understanding and validating the theoretical constructs proposed in the hypotheses (Gaskin, 2013; Sarstedt et al., 2017). Through this rigorous analysis, we aim to either confirm or refute the initial propositions presented in the study (Kock, 2015).

4. Results

4.1 Respondent Demographic Data

Table 2 presents the demographic data of the respondents who participated in this study.

Table 2

Respondent Demographic Data

Information	Number of respondents	Percentage (%)
Age:		
1. < 20 Years	0	0
2. 21-25 Years	7	4,19
3. 26-30 Years	43	25.75
4. 31-35 Years	51	30,54
5. >36 Years	66	39,52
Gender:		
1. Man	71	42,51
2. Woman	96	57,49
Level of education:		
1. JUNIOR HIGH SCHOOL	16	9.58
2. SENIOR HIGH SCHOOL	50	29.94
3. Diploma	43	25.75
4. Bachelor	48	28,74
5. Master	10	5.99
Length of Business		
1. 1-3 Years	81	48.50
2. 4-6 Years	68	40,72
3. 7-10 Years	18	10.78
4. >10 Years	0	0

Table 2 shows that there were 60.48 % (101 respondents) who were 36 years old or younger and 39.52 % (66 respondents) were older than 36 years. In terms of gender diversity, 57.49 % (96 respondents) were female and 42.51 % (71 respondents) were male. More than half of the sample (60.48 % or 101 respondents) have higher education (Diploma, Bachelor, and Masters) and almost half have opened a business (business length) between 1-3 years (48.50% or 81 respondents). Furthermore, Table 3 presents the descriptive statistics that explain the general description of the variables of this study. Table 3 indicates that the age range of MSMEs in the study spans from the youngest at 22 to the oldest at 40, with an average age of 33 years. This data suggests that most respondents are not only relatively young but also within a productive age bracket. In terms of formal education levels, they range from Junior High School (SMP) at the lowest to a master's degree at the highest. For non-formal education, scores vary from a minimum of 1 to a maximum of 4, averaging at 3.8, underscoring that most participants deem non-formal education to be significant. Regarding business tenure, the scores fall between a minimum

of 1 and a maximum of 4, with an average value of 1.76, translating to an approximate average business duration of 2 years for the study's respondents.

Table 3
Descriptive statistics

Variable	Min	Max	Average
Characteristics of MSME Actors			
Age	22	40	33
Gender	0	1	-
Formal Education Level	1	4	2.97
Non-formal education	2	5	3,8
Length of Business	1	4	1.76
Use of the Sharing Economy	2	5	3,2
Management Accounting Usage	2	5	3.64
Financial performance	2	5	3,7

Concerning the adoption of the sharing economy, scores range from a low of 2 to a high of 5, averaging out at 3.2. This data demonstrates that there are no participants in our study who have completely abstained from using sharing economy technology. An average score of 3.2 suggests that the respondents' utilization of information technology varies from occasional to frequent. The data for the Management Accounting System usage variable reveals scores ranging from a minimum of 2 to a maximum of 5, with an average value of 3.64. This finding highlights the importance attributed to accounting records by the participants. Regarding the financial performance variable, the scores vary between a low of 2 and a high of 5, with an average standing at 3.7. This suggests that the typical MSME participant in our study experiences financial performance ranging from reasonably positive to notably good.

4.2 Instrument Test

Validity and Reliability Test

The validity tests consist of *convergent validity*, AVE, and *discriminant validity* are presented in tables 6, 7, and 8 in appendix 1. Based on the test results it can be concluded; with convergent validity, the outer loading value for all variables is greater than 0.7. Based on the test results (AVE table), all variables having an outer loading value above 0.70 are considered to have met the requirements (although several outer loading values are less than 0.70 but can be tolerated because they are greater than 0, 50). Meanwhile*, the discriminant validity* was above 0.6 so all variables were valid. Table 8 in Appendix 1 shows that the value of *Cronbach's alpha* is greater than 0.70 except for non-formal education variables of less than 0.70 (amounting to 0.586) but in the output *composite reliability* variables age, gender, formal education, non-formal education, length of business, use of sharing economy, management accounting systems usage, and performance are all greater than 0.70. These results indicate that all the variables used in this study are reliable.

Results of Feasibility Testing Model (Inner Model)

The evaluation of the structural model is conducted utilizing R-square, yielding the following outcomes:

Table 4
Testing the Inner Model or Structural Model

No.	Variable	R Square
1.	Characteristics of MSME Actors → Use of Sharing Economy	0.764
2.	Use of Sharing Economy → Use of MAS	0.983
3.	Use of MAS → Financial Performance	0.992

Source: Processed data, 2022

Table 4 reveals an R-square value of 0.764 for the impact of MSME actors' characteristics on the use of Economic Sharing, signifying that 76.4% of the variation can be explained by factors including age, gender, formal education, non-formal education, and business tenure. The R-square value for the effect of Economic Sharing use on Management Accounting System Usage (MAS) is 0.983. This implies that Economic Sharing use accounts for 98.3% of the variation in MAS usage. Further, an R-square value of 0.992 is observed for the influence of MAS usage on financial performance, denoting that MAS usage explains 99.2% of the variation in financial performance. With all R-square values for the effect of the three independent variables on the dependent variable exceeding 0.67, the data suggests extremely strong correlations among the three variables.

4.3 Hypothesis Test

Based on the Smart PLS procedures for data analysis, the results show that the highest coefficient values of all variable constructs are found in the characteristics of MSME actors which include age, gender, formal education, and length of business, which is 1,000. This shows that these variables have the strongest correlation among other constructs in this research

variable. While the lowest value is in the sales record construct. This indicates that a sales record is the construct that has the lowest correlation with the other constructs. After calculating the PLS Algorithm to determine the value of the construct coefficient of each variable, *bootstrapping is then performed.* The results are presented in Fig. 3.
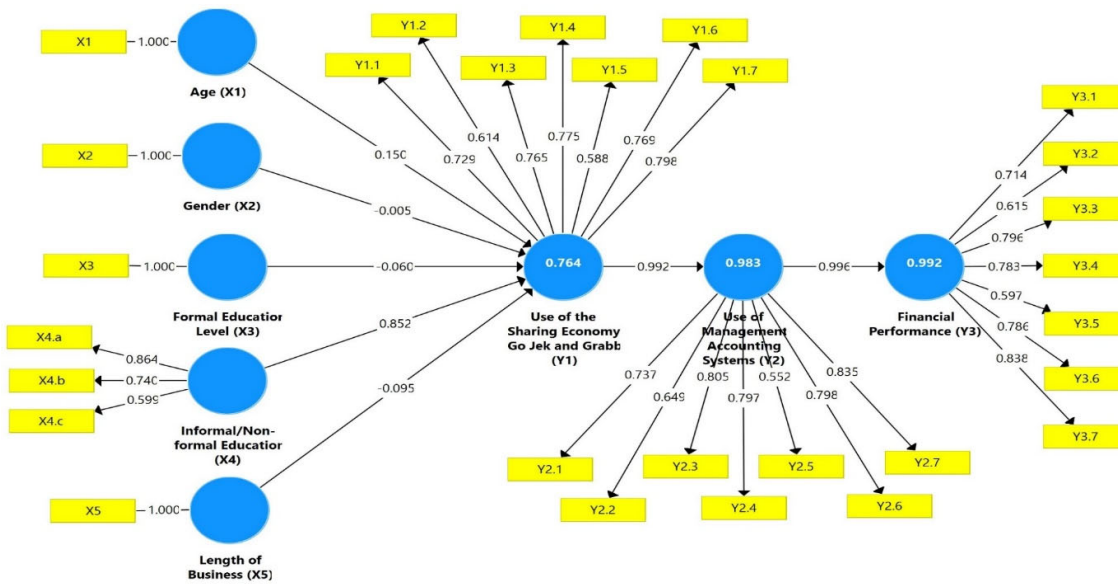

Fig. 3. PLS Algorithm

The *Path Coefficient* table is presented in Table 5:

Table 5

Path Coefficients (t-statistics, p-value)

No	Relationship between variables	*Coefficient*	t value	Sig.	Hypothesis Description
1.	Age → SE Usage	0.150	2,210	0.028	H 1-a is accepted
2.	Gender → SE Usage	-0.005	0.117	0.907	H 1-b is rejected
3.	Formal Education → SE Usage	-0.060	1,496	0.135	H 1-c is rejected
4.	Non. Formal Edu → SE Usage	0.852	34,296	0.000	H 1-d is accepted
5.	Length of Business → SE Usage	-0.095	1,534	0.126	H 1-e is rejected
6.	SE Usage → MAS Usage	0.992	697,430	0.000	H2 is accepted
7.	MAS Usage → Financial Performance	0.996	1,500,745	0.000	H3 is accepted

Source: Processed data, 2022

Table 5 displays various results that can be interpreted in the following manner. Firstly, the coefficient for the pathway from Age to P.SE is positive and statistically significant (with t = 2.210 and p < 0.05), supporting Hypothesis H1-a. This indicates that the age of MSME actors has a positive and substantial impact on the utilization of the sharing economy. Secondly, the pathway from Gender (JK) to P.SE shows a negative coefficient that isn't significant (t = 0.117; p > 0.10), leading to the rejection of Hypothesis H1-b. This suggests that gender diversity among MSME actors does not notably influence the adoption of the sharing economy. In addition, the coefficient for the Formal Education to P.SE path is negative but not significant (t = 1.496; p > 0.10), failing to support Hypothesis H1-c. It implies that the formal education level of MSME actors doesn't significantly affect their engagement with the sharing economy. Contrastingly, the pathway from Non-Formal Education to P.SE has a positive and significant coefficient (t = 34.296; p < 0.001), which supports Hypothesis H1-d, indicating that non-formal education indeed plays a significant role in positively influencing MSME actors' use of the sharing economy. The coefficient representing the path from Business Tenure to P.SE is positive but not significant (t = 1.534; p > 0.10), thus not supporting Hypothesis H1-e. This result suggests that the duration for which the business has been established doesn't significantly affect its engagement with the sharing economy. Furthermore, the path from P.SE to P.SAM yields a positive and significant coefficient (t = 697.430; p < 0.001), upholding Hypothesis H2 and demonstrating that the use of the sharing economy positively influences the usage of MAS. The coefficient for the path from P.MAS to Financial Performance is also positive and significant (t = 1,500.745; p < 0.000), supporting Hypothesis H3. This last finding suggests a positive and significant impact of MAS usage on the financial performance of the entities involved.

5. Discussion

5.1 The Effect of the Characteristics of MSME Actors on the Use of Economic Sharing Technology

The findings of our study reveal that the age of MSME actors has a positive and significant effect on the use of the sharing economy. This result can be attributed to the age of the research respondents who are mostly of productive age and are

relatively young so they are very familiar with or skilled in using smartphones. This fact is an important contributor to the influence of age on the use of sharing economy technology. From the respondents' answers to each question in the questionnaire, it was shown that the highest answer was the use of GoJek in general with an average of 4.05. More specifically, the use of various types of Go Jek and Grab services with a high average response rate respectively are: GoFood/Grab Food (3.83) and Go Send/Grab Express (3.81) and GoPay/OVO with an average of 3.75. These results are almost the same as the results of research conducted by the FEB Demographic Institute at the University of Indonesia that GoJek is the platform most widely used by the public. In detail, the services that are widely used are GoFood (65%), GoPay (68%), Paylater (57%), and GoSend (36%) (Westerman & Davies, 2000).

When it comes to adopting new information technologies, individuals who are older tend to struggle with operating digital devices, including smartphones, due to a lack of fundamental digital literacy skills needed for device usage. It is the factor that causes the elderly to need assistance, encouragement, and information technology designs that are more "user friendly" for their age (Guner & Acarturk, 2020). Our study suggests that young people will more easily accept the new technology than older people. Furthermore, this study obtained evidence that non-formal education has a positive effect on the use of sharing economy technology. Non-formal education in the form of training and education can encourage SMEs to take advantage of technological developments in this digital era to market their products. Non-formal education can provide good experience in marketing the products produced by SMEs using the sharing economy (Gojek and Grab). Thus, this study supports the findings of previous research that informal/non-formal education that can improve cognitive abilities will have a positive impact on the decision to use technology and has the potential to increase perceptions of the use of the technology, which in turn will increase the intention to use it (Jayasuriya, 1998; Karimi, 2016). Training in the use of well-designed information technology will also improve computational and spatial intelligence, which, in turn will foster a perception of usability, leading to the intention to use a particular technology (Hou et al., 2020). Recent research on the role of informal education in information technology use also suggests that Considering the average performance across different age groups, older individuals can only align with the technology task proficiency of younger people by engaging in extra practice (Westerman & Davies, 2000). Meanwhile, the characteristics of other MSME actors, namely gender, formal education, and length of business were shown in this study to have no effect on the use of sharing economy technology. The analysis outcomes showcased in this study suggest that gender does not exert a substantial impact on the utilization of sharing economy services like Gojek and Grab. These results imply that in today's digital age, technology usage is not swayed by gender differences. This means that the existence of sharing economy is not only limited to a particular type of gender but has become part of the need to support activities, especially for SMEs to ensure the continuity of operations and product sales. As for the formal education variable which also does not affect the use of the sharing economy, this finding suggests that the use of sharing economy technology has become a necessity for all levels of society and is not limited to MSMEs with formal education at a higher level. Similarly, regarding the variable of business duration, the findings of the study indicate that not just well-established MSMEs require sharing economy technology, but also newly founded MSMEs, encompassing those initiated during the Covid-19 Pandemic.

5.2 The Effect of the Use of Sharing Economy on Management Accounting System Practices

The results of the analysis presented in this study suggest that the use of the sharing economy has a positive and significant effect on the use of the management accounting system. This means that MSME actors who use the sharing economy are encouraged to implement a better management accounting system so that they can adequately monitor the financial recording process. Based on the respondents' answers, 3 (three) uses with a high average successively are the use of Accounts Receivable Books (3.98), Cost Records and Cost of Goods (3.72), and Records of Overall Cost for decision making and control (3, 67). The results of this study also reveal that information technology practices are positively related to 3 management accounting techniques, namely: costing practices, budgeting practices, and performance management practices (Cleary et al., 2022). In the context of MSMEs in Indonesia, research on the design of management accounting systems in MSMEs that have implemented E-Commerce is very important to adapt, especially with reliable and timely processing of financial transactions (Sutia et al., 2020).

5.3 The Effect of the Use of Management Accounting Systems on MSME's Performance

The findings of our study show that the use of management accounting system has a positive impact on the financial performance of MSMEs. From the respondents' answers, the 3 highest average financial performances achieved by MSMEs are as follows: not requiring a loan (4.02), obtaining profits that can be used to manage the business (3.78), and no decrease in sales (3,74). Following the contingency theory, these results suggest that management accounting information provides useful information to support business management. A closer examination reveals that actors within the MSME sector are utilizing the accounts receivable book effectively, ensuring that business income can be reliably collected. Furthermore, cost and costing record is useful to ensure that the selling prices still provides an adequate profit. Meanwhile, recorded costs for decision-making and control are useful for ensuring efficiency so that they can provide benefits to the companies, even during the Covid-19 pandemic. Our research findings align with prior studies, underscoring that the employment of traditional management accounting techniques, particularly budgeting, positively influences the Return on Investment (ROI) garnered by MSMEs, as evidenced by Alvarez et al. (2021). Comparable outcomes were observed in Indonesian research by Pratiwi et

al. (2022), which noted that budget utilization positively correlates with the sustained success of MSME ventures. Incorporating management accounting practices, including costing, budgeting, and performance management, enhances data accuracy. This heightened accuracy bolsters efficiency and trims operational expenses, ultimately leading to improved performance among MSMEs, as outlined by Cleary et al. (2022)

6. Conclusion

This study aims to examine the influence of the characteristics of MSME actors which include age, gender, level of formal education, non-formal education, and length of business on the use of sharing economy technology, and its effect on management accounting usage and MSME's performance. The results of our study show that age and non-formal education have a positive effect on the use of sharing economy technology, while formal education, gender, and length of business do not have any effects. Meanwhile, the use of sharing economy technology affects management accounting systems usage, which in turn affects the financial performance of MSMEs. The results of this research are very useful for parties who have an interest in the guidance and assistance of MSMEs to support the Indonesian government's policies that will make MSMEs "rise up". The materials and coaching methods should pay attention to the characteristics of MSMEs actors to obtain effective results and to be able to boost MSME performance. Theoretically, the results of this study contribute to the development of Upper Echelon Theory and contingencies variables that are suitable in situations and conditions with more intensive use of information technology. Notwithstanding the results, this study has two limitations. First, this study only includes two companies in the sharing economy technology (i.e., Grab and Gojek). Future research might validate the results of this study by incorporating more companies in the sharing economy technology such as Shopee, Tokopedia, and Bukalapak. Second, our study only focuses on the MSMEs' actors' characteristics. It might be possible that the use of sharing economy technology and management accounting systems is influenced by external factors such as competitive and customer pressures. Future research might validate the results of our study by incorporating these external factors.

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Appendix. 1

Table A1
Convergent Validity

Variable	Construct	*Convergent*
	Age	1,000
	Gender	1,000
	Formal Education Level	1,000
The Characteristic of SMSE.	Informal/ non-formal Education 1	0,864
	Informal/ non-formal Education 2	0,740
	Informal/ non-formal Education 3	0,599
	Length of Business	1,000
The Use of Sharing Economy: GoJek and Grab	P.SE.1 The Use of SE 1	0,729
	P.SE.2 The Use of SE 2	0,614
	P.SE.3 The Use of SE 3	0,765
	P.SE.4 The Use of SE 4	0,775
	P.SE.5 The Use of SE 5	0,588
	P.SE.6 The Use os SE 6	0,769
	P.SE.7 The Use of SE 7	0,798
The Management Accounting Systems Usage	MAS Usage 1 P.SAM.1	0,737
	MAS Usage 2 P.SAM.2	0,649
	MAS Usage 3 P.SAM.3	0,805
	MAS Usage 4 P.SAM.4	0,797
	MAS Usage 5 P.SAM.5	0,552
	MAS Usage 6 P.SAM.6	0,798
	MAS Usage 7 P.SAM.7	0,835
	Financial Performance 1	0,714
	Financial Performance 2	0,615
	Financial Performance 3	0,796
Financial Performance	Financial Performance 4	0,783
	Financial Performance 5	0,597
	Financial Performance 6	0,786
	Financial Performance 7	0,838

Table A2
AVE and *Discriminant Validity*

Variable	AVE	*Discriminant Validity*
Age.	1,000	1,000
Gender	1,000	1,000
Formal Education	1,000	1,000
Informal/Non-formal Education.	0,551	0,742
Length of Business	1,000	1,000
The Use of Sharing Economy.	0,524	0,724
The Use of Management Accounting System.	0,555	0,745
Financial Performance.	0,545	0,738

Table 8
Test of Variable Construct Reliability

Variable	Cronbach's Alpha	Composite Reliability	Result
Age	1,000	1,000	Reliable
Gender	1,000	1,000	Reliable
Formal Education Level	1,000	1,000	Reliable
Informal/ Non-formal Education.	0,586	0,786	Reliable
Length of Business.	1,000	1,000	Reliable
The Use of Sharing Economy.	0,846	0,884	Reliable
The Management Accounting System Usage.	0,862	0,896	Reliable
Financial Performance.	0,857	0,892	Reliable

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